

I claim:

1. A modular latch assembly, comprising:
 - a control element having a first state in which the control element has a first path of motion and a second state in which the control element has a second path of motion;
 - a pawl having latched and unlatched positions, the pawl being movable from the latched position to the unlatched position by the control element in its first state but not in its second state; and
 - at least two control element positions each dimensioned to receive a control element, the latch assembly having different operational modes corresponding to control elements occupying different control element positions, the control element occupying a first of the at least two control element positions.
2. The modular latch assembly as claimed in claim 1, wherein the latch assembly has at least two of at least three operational modes: a first mode in which the latch has one control element occupying the first control element position, a second mode in which the latch has one control element occupying a second control element position, and a third mode in which the latch has two control elements occupying the first and second control element positions
3. The modular latch assembly as claimed in claim 2, further comprising a first input element coupled to the control element, the first input element also coupled to a user-operable device external to the latch assembly for actuating the control element via the first input element.
4. The modular latch assembly as claimed in claim 2, wherein the control element is a first control element, the modular latch assembly further comprising a first input element coupled to a first user-operable device, the first input element also coupled to the first control element, the first input element interchangeably connectable to a second control element.
5. The modular latch assembly as claimed in claim 4, further comprising a second input element coupled to a second user-operable device, the second input element also coupled to the second control element, the second input element interchangeable connectable to the first control element.

6. The modular latch assembly as claimed in claim 4, further comprising a second input element coupled to a second user-operable device, the second input element also coupled to the first control element, wherein the first and second input elements are movable substantially independently with respect to one another so that actuation of one of the first and second input elements does not create substantial movement of another of the first and second input elements.

7. The modular latch assembly as claimed in claim 3, further comprising:
an engagement element coupled to the control element in the first state and decoupled from the control element in the second state;
a manual override having:
a second input element and
a second user-operable device coupled to the second input element,
the second input element also coupled to the engagement element for movement of the engagement element into and out of coupled relationship with the control element.

8. The modular latch assembly as claimed in claim 7, further comprising a bell crank coupled between the second input element and the engagement element.

9. The modular latch assembly as claimed in claim 7, wherein the first and second input elements are movable substantially independently with respect to one another to permit actuation of one of the first and second input elements without substantial movement of another of the first and second input elements.

10. The modular latch assembly as claimed in claim 2, further comprising:
a first input element coupled to a first user-operable device, the first input element also selectively and interchangeably coupled to one of the pawl and the control element.

11. The modular latch assembly as claimed in claim 10, wherein the control element is a first control element, the modular latch assembly further comprising:
- a second control element; and
 - a second input element coupled to a second user-operable device, the second input element also selectively and interchangeably coupled to one of the pawl, the first control element, and the second control element.
12. The modular latch assembly as claimed in claim 10, further comprising:
- an engagement element coupled to the control element in the first state and decoupled from the control element in the second state;
 - a manual override having:
 - a second input element and
 - a second user-operable device coupled to the second input element,
 - the second input element also coupled to the engagement element for movement of the engagement element into and out of coupled relationship with the control element.
13. The modular latch assembly as claimed in claim 12, further comprising a bell crank coupled between the second input element and the engagement element.
14. The modular latch assembly as claimed in claim 12, wherein the first and second input elements are movable substantially independently with respect to one another to permit actuation of one of the first and second input elements without substantial movement of another of the first and second input elements.
15. The modular latch assembly as claimed in claim 1, further comprising an input element coupled to the control element, the input element also coupled to a user-operable device external to the latch assembly for actuating the control element via the input element.
16. The modular latch assembly as claimed in claim 15, wherein the input element is one of a cable and a rod.

17. The modular latch assembly as claimed in claim 1, wherein the control element is movable into camming contact with a surface of the pawl in the first path of motion of the control element.

18. The modular latch assembly as claimed in claim 1, further comprising a link coupled to the control element at a first end and to the pawl at a second end, and wherein the pawl is movable between its latched and unlatched positions via the link and the control element in its first state.

19. The modular latch assembly as claimed in claim 1, further comprising a bell crank having a cam surface, the bell crank mounted to contact the control element in its first path of motion.

20. The modular latch assembly as claimed in claim 20, wherein the control element is a first control element, the modular latch assembly further comprising:

- a second control element having a first state in which the second control element has a first path of motion and a second state in which the second control element has a second path of motion;

- an engagement element coupled to the second control element in the first state and decoupled from the second control element in the second state, the bell crank coupled to the engagement element for movement of the engagement element into and out of coupled relationship with the second control element in response to camming motion of the first control element against the bell crank.

21. The modular latch assembly as claimed in claim 1, further comprising a bell crank having a cam surface, the bell crank mounted to contact the pawl during movement thereof.

22. The modular latch assembly as claimed in claim 1, further comprising:
an engagement element coupled to the control element in the first state and decoupled from the control element in the second state;
a bell crank; and
an input element coupled to a user-operable device and to the bell crank, the user-operable device movable to rotate the bell crank and to move the engagement element into and out of coupled relationship with the control element.
23. The modular latch assembly as claimed in claim 22, wherein the input element is movable substantially independently of pawl and control element movement to permit pawl and control element movement without substantial movement of the input element.
24. The modular latch assembly as claimed in claim 1, further comprising at least one bias element coupled to the control element for biasing the control element toward an at-rest position in the latch assembly.
25. A modular latch assembly comprising:
at least one control element having a first state in which the control element is rotatable about a first pivot point and an second state in which the control element is rotatable about a second pivot point;
a ratchet having a latched position and an unlatched position, the at least one control element capable of moving the ratchet from the latched position to the unlatched position when in the first state, the at least one control element incapable of moving the ratchet from the latched position to the unlatched position when in the second state,
the latch assembly being modular to receive control elements in at least two of at least three configurations: a first configuration in which the latch assembly has one control element occupying a first position in the latch assembly, a second configuration in which the latch assembly has one control element occupying a second position in the latch assembly, and a third configuration in which the latch assembly has two control elements occupying the first and second positions in the latch assembly.

26. The modular latch assembly claimed in claim 25, further comprising an engagement element having a first position in which the control element is placed in its first state and a second position in which the control element is placed in its second state, the engagement element defining the first pivot point when the engagement element is in its first position.

27. The modular latch assembly as claimed in claim 26, further comprising a manual override for moving the engagement element to at least one of its first and second positions.

28. The modular latch assembly as claimed in claim 27, wherein the manual override includes

- a bell crank coupled to an engagement element and rotatable to move the engagement element into and out of coupled relationship with the control element;
- an input element coupled to the bell crank for exerting rotational motion upon the bell crank; and
- a user-operable device coupled to the input element.

29. The modular latch assembly as claimed in claim 25, further comprising a pawl between the at least one control element and the ratchet, the pawl having a latched position in which the ratchet is prevented from rotation and an unlatched position in which the ratchet can rotate, the pawl being movable to the unlatched position by movement of the at least one control element only in the first state.

30. The modular latch assembly as claimed in claim 25, further comprising an input element coupling each control element to a user-operable device external to the latch assembly, each input element capable of exerting motive force upon the control element coupled thereto.

31. The modular latch assembly as claimed in claim 30, wherein each input element rotates the control element coupled thereto.

32. The modular latch assembly as claimed in claim 30, wherein the input elements coupled to at least two control elements are interchangeable.

33. The modular latch assembly as claimed in claim 30, further comprising:
a pawl coupled between the ratchet and the at least one control element; and
a pawl input element coupled to the pawl for direct actuation thereof;
the pawl and the ratchet each having respective latched and unlatched positions,
the pawl preventing movement of the ratchet to its unlatched position when the
pawl is in its latched position and permitting movement of the ratchet to its
unlatched position when the pawl is in its unlatched position, wherein the pawl
is movable to its unlatched position by actuation of the pawl input element.
34. The modular latch assembly as claimed in claim 30, further comprising a pawl coupled
between the ratchet and the at least one control element, wherein at least one of the input
elements is interchangeably connectable to the pawl and to one of the at least one control
elements.
35. The modular latch assembly as claimed in claim 25, further comprising a pawl coupled
between the ratchet and the at least one control element, wherein at least one control element in
each configuration has a surface against which the pawl can press in the first state of the control
element to move the pawl and release the ratchet.
36. The modular latch assembly as claimed in claim 25, further comprising a link coupled to
the pawl and to the at least one control element, wherein the at least one control element is
movable in its first state to move the pawl via the link to release the ratchet.